

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A device for processing packets of flows on a network link ~~and ensuring a quality of service without explicitly distinguishing between real-time flows and data flows~~, the device comprising:

scheduling means for scheduling packets of flows in a queue in accordance with a fair queuing with priority algorithm, the scheduling means being configured to schedule as priority packets any packets of flows in the queue that are not identified in a list of active flows and as non-priority packets any packets of flows that are already identified in the list of active flows; and

means for writing flows in and erasing flows from the list of active flows as a function of the arrival and departure of packets of the flows, said means being configured to erase from the list of active flows a flow which has not had any packets in the queue for a certain time period, thereby giving priority to the next packet of the flow;

wherein a priority is assigned to the packets of the flows for which a bit rate is below a dynamic threshold, the dynamic threshold being determined by traffic conditions.

2. (Previously Presented) The device according to claim 1, further comprising admission control means for controlling admission of said packets into the device in accordance with admission criteria.

3. (Previously Presented) The device according to claim 2, wherein the scheduling means send the admission control means admissibility condition data.

4. (Previously Presented) The device according to claim 2, wherein the admission control means comprise means for interrogating a list of protected flows for each incoming packet.

5. (Previously Presented) The device according to claim 4, further comprising means for erasing flows for which the time elapsed since the last packet was received exceeds a threshold value from the list of protected flows.

6. (Previously Presented) The device according to claim 4, wherein the admission control means comprise means for determining if the admission criteria are satisfied if a packet belongs to a flow that is not in the list of protected flows.

7. (Previously Presented) The device according to claim 4, comprising means for entering a new flow in the list if the admission criteria are satisfied.

8. (Previously Presented) The device according to claim 2, wherein the admissibility condition data includes:

a fair bit rate value that represents the bit rate achieved by a data flow that always has packets to send, and

a priority load value, which is sum of the lengths of priority packets transmitted in a

certain time period divided by the duration of that time period.

9. (Canceled).

10. (Previously Presented) The device according to claim 1, wherein the scheduling means schedule the packets in a PIFO queue.

11. (Previously Presented) The device according to claim 10, wherein a pointer P identifies the last of the priority packets at the head of the queue.

12. (Previously Presented) The device according to claim 11, further configured to employ a list of active flows containing the identifiers of the active flows and wherein a time stamp is used for scheduling packets.

13. (Canceled).

14. (Previously Presented) The device according to claim 12, further comprising means for measuring congestion.

15. (Previously Presented) The device according to claim 14, wherein congestion measurements are carried out as a function of a local time, a number of priority packet bytes transmitted during a current measurement period, and a number of bytes that a dummy flow could send in said current measuring period.

16. (Previously Presented) The device according to claim 10, comprising means for determining whether the PIFO queue is empty.

17. (Previously Presented) The device according to claim 1, further comprising discrimination means for distinguishing classes of service at admission control level.

18. (Previously Presented) The device according to claim 1, wherein the flows are identified by a hashing function applied to address attributes.

19. (Currently Amended) A method of treating packets of flows on a network link and ensuring a quality of service without explicitly distinguishing between real-time flows and data flows, the method comprising;

a scheduling step for scheduling packets of flows in a queue in accordance with a fair queuing with priority algorithm, the scheduling step scheduling as priority packets any packets in the queue that are not identified in a list of active flows and as non-priority packets any packets of flows that are already identified in the list of active flows; and

writing flows in and erasing flows from the list of active flows as a function of the arrival and departure of packets of the flows, wherein a flow which has not had any packets in the queue for a certain time period erased from the list of active flows, thereby giving priority to the next packet of the flow

wherein a priority is assigned to the packets of the flows for which a bit rate is below a dynamic threshold, the dynamic threshold being determined by traffic conditions.

20. (Previously Presented) The method according to claim 19, further comprising an admission control step for controlling the admission of said packets into a device for processing said packets in accordance with admission criteria.

21. (Previously Presented) The method according to claim 20, further comprising a step of sending admissibility conditions to a means for controlling admission of the data.

22. (Previously Presented) The method according to claim 21, wherein the admission control step includes interrogating a list of protected flows for each incoming packet.

23. (Previously Presented) The method according to claim 22, wherein flows for which the time elapsed since the last packet was received exceeds a threshold value are erased from the list of protected flows.

24. (Previously Presented) The method according to claim 22, comprising a step for determining if the admission criteria are satisfied if a packet belongs to a flow that is not in the list of protected flows.

25. (Previously Presented) The method according to claim 22, comprising a step of entering a new flow in the list if the admission criteria are satisfied.

26. (Previously Presented) The method according to claim 21, wherein the admissibility conditions data include:

a fair bit rate value that represents the bit rate achieved by a data flow that always has packets to send, and

a priority load value, which is sum of the lengths of priority packets transmitted in a certain time period divided by the duration of that time period.

27. (Canceled).

28. (Previously Presented) The method according to claim 20, wherein the scheduling means schedule packets in a PIFO queue.

29. (Previously Presented) The method according to claim 28, wherein a pointer P identifies the last of the priority packets at the head of the queue.

30. (Previously Presented) The method according to claim 29, further employing a list of active flows containing the identifiers of the flows and wherein a time stamp is used for scheduling packets.

31. (Canceled).

32. (Previously Presented) The method according to claim 30, further comprising congestion measurement step for measuring congestion.

33. (Previously Presented) The method according to claim 32, wherein congestion measurements are carried out as a function of a local time, a number of priority packet bytes transmitted during a current measurement period, and a number of bytes that a dummy flow could send in said current measurement period.

34. (Previously Presented) The method according to claim 28, including a step for determining whether the PIFO queue is empty ~~or not~~.

35. (Previously Presented) The method according to claim 19, wherein a signal relating to the loss of packets is sent to a user.

36. (Previously Presented) The method according to claim 19, further comprising discriminating classes of service at admission control level.

37. (Previously Presented) The method according to claim 19, wherein load sharing of flows over a plurality of links is effected with the aid of a function of address attributes including a free portion of a flow identifier.

38. (Previously Presented) A device for processing packets of flows on a network link, the device comprising:

scheduling means for scheduling packets in a queue as a function of a priority based on analyzing the incoming bit rate of the flows relative to a fair bit rate and in accordance with a fair

queuing with priority algorithm; and

admission control means for controlling admission of said packets into the device in accordance with admission criteria,

wherein the admissibility condition data includes:

a fair bit rate value that represents the bit rate achieved by a data flow that always has packets to send, and

a priority load value, which is sum of the lengths of priority packets transmitted in a certain time period divided by the duration of that time period.

39. (Previously Presented) A method of treating packets of flows on a network link, the method comprising:

a scheduling step for scheduling packets in a queue as a function of a priority based on analyzing the incoming bit rate of the flows relative to a fair bit rate and in accordance with a fair queuing with priority algorithm;

an admission control step for controlling the admission of said packets into a device for processing said packets in accordance with admission criteria; and

a step of sending admissibility conditions to a means for controlling admission of the data;

wherein the admissibility conditions data include:

a fair bit rate value that represents the bit rate achieved by a data flow that always has packets to send, and

a priority load value, which is sum of the lengths of priority packets transmitted in a certain time period divided by the duration of that time period.